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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/752,431

Filing Date: January 06, 2004

Appellant(s): BAER ET AL.

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Patrick Burns  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 8/25/2008 appealing from the Office action mailed 1/24/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,666,638	Craven	12-2003
5,044,855	Fukubayashi	09-1991

112,935

Linsey

03-1871

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

[1] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[2] Claims 1, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US- 6,666,638, in view of Fukubayashi, US-5,044,855, and even further in view of Linsey, US- 112,935.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 1, Craven teaches of a fastener (300 in Fig. 14) for composite material comprising:

a shaft (363, 353) having a longitudinal axis,  
an undercut head at a first end of the shaft (170 and below in Fig. 5, and from col. 6, line 6, "...the remnants 80 that are cut or extruded from the remnant-producing material 82 may also be captured by the lower neck portion 174, the upper neck portion 172, and the land area 190").

a point (340) at the other end of the shaft (end of 353),  
a first portion of the shaft (353) adjacent the point (340) being threaded (354), and  
extending over a portion of the total length of the shaft (363,353),  
a second portion of the shaft (363) adjacent the head not being threaded, said second  
portion having a plurality of spaced rings (394), the spaced rings (394) reducing the  
mushrooming of the composite material when the fastener is used in the composite material  
(from col. 7, beginning with lines 9, “screw captures the remnants that have been extruded onto  
the surface of the remnant-product material. In use, remnants 80 that are shaved, cut, or  
otherwise pushed to the surface 83 of the remnant-producing material 82 are captured by the  
threads 264 of the upper threaded portion 260. Refer now to Fig. 14 that shows a  
screw...according to another embodiment of the present invention.”)

The differences between the claim and Craven are the following: the threads (354) and  
first portion of the shaft having three radial lobes; and the head having an undercut edge which is  
inverted in a circular arc towards the head, the undercut edge being furthest from a top surface of  
the head at an outside portion of the head furthermost from the longitudinal axis, the undercut  
edge being closer to the top surface between the outside portion and the longitudinal axis. With  
regard to the former of the two issues above, Fukubayashi discloses a fastener similar to that of  
Craven. In addition, Fukubayashi further teaches of threads and a first portion of the shaft  
having three radial lobes (see Fig. 2) (col. 1, lines 32-51). It would have been obvious to one of  
ordinary skill in the art, having the disclosures of Craven and Fukubayashi before him at the time  
the invention was made, to modify the threads and first portion of the shaft to have three radial  
lobes, as in Fukubayashi. One would have been motivated to make such a combination because

one would want a configuration of the thread and screw that allows for the screw to be more easily driven with a lower driving torque; also decreasing slipping force and thereby increasing the holding torque of the screws as taught by Fukubayashi in col. 2, lines 37-68.

With regard to the latter of the two issues above (...head having an undercut edge...") Linsey discloses a fastener similar to that of Craven in view of Fukubayashi. In addition, Linsey further teaches of a head (B) at a first end of a shaft, the head (B) having an undercut edge (a) which is inverted in a circular arc towards the head (B), the undercut edge (a) being furthest from a top surface of the head at an outside portion of the head (rightmost part of a), furthermost from the longitudinal axis, the undercut edge (a) being closer to the top surface between the outside portion (inside middle of a) the longitudinal axis. It would have been obvious to one of ordinary skill in the art, having the disclosures of Craven, Fukubayashi, and Linsey before him at the time the invention was made, to modify the head to incorporate an undercut, as in Linsey. One would have been motivated to make such a combination because such a feature prevents the head from pressing the fibers apart and splitting a material, the remainder being left flat and smooth, without the trouble of countersinking, thus providing an example of a self-countersinking head. Examiner also encourages the applicant to review the following, helping to depict that such a feature is extremely well known in the art of fasteners. Dekker, 3,903,784 (Figs. 5 and 7); Place, 2,895,368 (Fig. 1 and 4); Peterka et al, 2,056,688 (Figs. 1,5,8,12); Hobbs, 2,982,166; Maclean, 1,955,924; Twedell, 1,827,628; Campbell et al., 1,820,556; Rich et al., 4,310,272.

Re: Claim 3, Craven discloses wherein said first portion (353) has asymmetrical threads (thread at 340 compared to the thread at 356 in Fig. 14).

Re: Claim 7, Craven discloses comprising three said rings, wherein said rings are equally spaced with respect to each other (390 and the two rings below in Fig. 14).

[3] Claims 2, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US-6,666,638, in view of Fukubayashi, US-5,044,855, and further in view of DeHaitre US-5,516,248.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 2, Craven in view of Fukubayashi teach of that from Claim 1, including a shaft with both a first and second portion.

The difference between the claim and Craven in view of Fukubayashi is the claim recites: comprising a knurled portion between said first and second portions. DeHaitre discloses a fastener similar to that of Craven in view of Fukubayashi. In addition, DeHaitre further teaches of a knurled section (18) between both a first (16) and second (10) position of a shaft. It would have been obvious to one of ordinary skill in the art, having the disclosures of Craven in view of Chen and DeHaitre before him at the time the invention was made, to modify the fastener of Craven in view of Fukubayashi to include a knurled section between both the threaded first portion and the second portion as in DeHaitre. One would have been motivated to make such a combination to help reduce installation time and increase the drive tool life since the knurled section, as stated in col. 6, beginning with line 4, "cuts away fibers which would otherwise

engage the screw shank and thereby reduce frictional resistance with resulting optimization of driver torque in driving the screw into the workpieces and seating the head beneath the work surface" as taught by DeHaitre.

Re: Claim 9, DeHaitre discloses comprising a shank slot adjacent said point (42 in Fig. 1, motivation of which can be found in col. 5 of DeHaitre, beginning with line 44).

[4] Claims 5-6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven, US- 6,666,638, in view of Fukubayashi, US-5,044,855, and further in view of case law.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 5, Craven in view of Fukubayashi teach that of that from Claim 1.

It would have been an obvious matter of art recognized equivalence to have the rings unequally spaced with respect to each other, as Applicant has not disclosed that it solves any stated problem of the prior art (that is, the applicant has not discussed how the unequal placement of the spaced rings will solve a different problem than that of equally spaced rings such as that of Craven; as applicant even submits an embodiment that incorporates an version where the rings are equally spaced between one another) or is for any particular purpose. It appears that the invention would perform equally well as the invention disclosed by Craven. In addition, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. See also, *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)

(the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice). This specific reasoning can also be applied to that stated in Claims 6 and 8.

Re: Claim 6 (see above).

Re: Claim 8 (see above).

**(10) Response to Argument**

To begin, on page 8 of the applicant's brief it is stated that the unthreaded portion 3a of the prior art of Fukubayashi '855 is the only portion that has three lobes. The examiner disagrees. The examiner would like to direct applicant to col. 5 lines 27-30 of Fukubayashi, where it is stated "The screw thread 4 formed over the first portion 3a, the second portion 3b and the third portion 3c is of a symmetric triangular shape..." The applicant then argues that Fukubayashi '855 is not designed for composite material, does not have an undercut head, and does not have a point adjacent a threaded first portion or a plurality of rings in a second portion of the fastener. In response, the examiner would like to point out that the prior art of Fukubayashi was used to show the prevalence in the art of fasteners with threads and a portion of the shaft thereof having three radial lobes. The prior art of Fukubayashi '855 was not used to show every claimed limitation, but rather, that it would have been obvious to one of ordinary skill in the art, having the disclosures of Craven and Fukubayashi before him at the time the invention was made, to modify the threads and first portion of the shaft to have three radial lobes, as in Fukubayashi, because one would want a configuration of the thread and screw that allows for the screw to be more easily driven with a lower driving torque; also decreasing slipping force and thereby increasing the holding torque of the screws as taught by Fukubayashi

in col. 2, lines 37-68. In response to Applicant's piecemeal analysis of the references, it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981).

Similarly, with respect to applicant's arguments on page 9 with respect to the prior art of Linsey '935, though the applicant admits that the head of screw of Linsey '935 is undercut, the applicant states that the screw of Linsey '935 does not have a lobed thread shaft, etc.

Aforementioned, in response to Applicant's piecemeal analysis of the references, it has been held that one cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981).

The prior art of Linsey, as shown and described above, was used solely for its teaching of modifying the head of a fastener to incorporate an undercut, because such a feature prevents the head from pressing the fibers apart and splitting a material, the remainder being left flat and smooth, without the trouble of countersinking, thus providing an example of a self-countersinking head (see fig. 1 compared with prior art screw of fig. 3).

Continuing then with applicant's remarks on pages 9-10 under Section "C", it is argued by applicant that the finding by the examiner that the fastener of Fukubayashi '855 is similar to that of Craven (then similar to Linsey) is erroneous. The examiner disagrees. The prior art of Fukubayashi '855, Craven, and Linsey all depict screws or fasteners that are similar in that they are employed for the art of fastening. Continuing, on pages 9-10, the applicant then begins to point out structural differences between the prior art of Craven, Fukubayashi, and Linsey. In response, the examiner would like to point out that it has been held that the test for obviousness

is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art. *In re Bozek*, 163 USPQ 545 (CCPA 1969).

Moving on to applicant's arguments provided in section "D", the applicant states that in view of the structural differences and the dates of the references, there is a strong indication that the examiner is using hindsight and not reasonably combining references. The examiner disagrees. Again, it has been held that the test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Further, in response to applicant's argument based upon the age of the references, contentions that the reference patents are old is not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. *In re Neal*, 179 USPQ 56 (CCPA 1973). And lastly, any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from appellant's disclosure, reconstruction is proper. *In re McLaughlin* 170 USPQ 209.

Lastly, the applicant states that the examiners' conclusion that one would have been motivated to combine Craven in view of Lindsey then in further view of Fukabayashi is unreasonable. The examiner would like to point out that the determining of obviousness does not require staying within the object of Craven. The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary

skill in the art." *KSR Int'l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007). Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed. Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle....In making the obviousness determination one "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396. "A person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR*, 127 S.Ct. at 1742. 82 USPO2d at 1397.

As shown and described above by the disclosures and teachings of Craven, Lindsey and Fukubayashi, a *prima facie* case of obviousness has indeed been presented and considered proper by the examiner. An application should not be allowed, unless and until issues pertinent to patentability have been raised and resolved in the course of examination and prosecution, since otherwise the resultant patent would not justify the statutory presumption of validity (35 U.S.C. 282), nor would it "strictly adhere" to the requirements laid down by Congress in the 1952 Act as interpreted by the Supreme Court. The standard to be applied in all cases is the "preponderance of the evidence" test. In other words, an examiner should reject a claim if, in view of the prior art and evidence of record, it is more likely than not that the claim is unpatentable. See MPEP 706.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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/Victor Batson/  
Supervisory Patent Examiner, Art Unit 3677

Conferees:

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